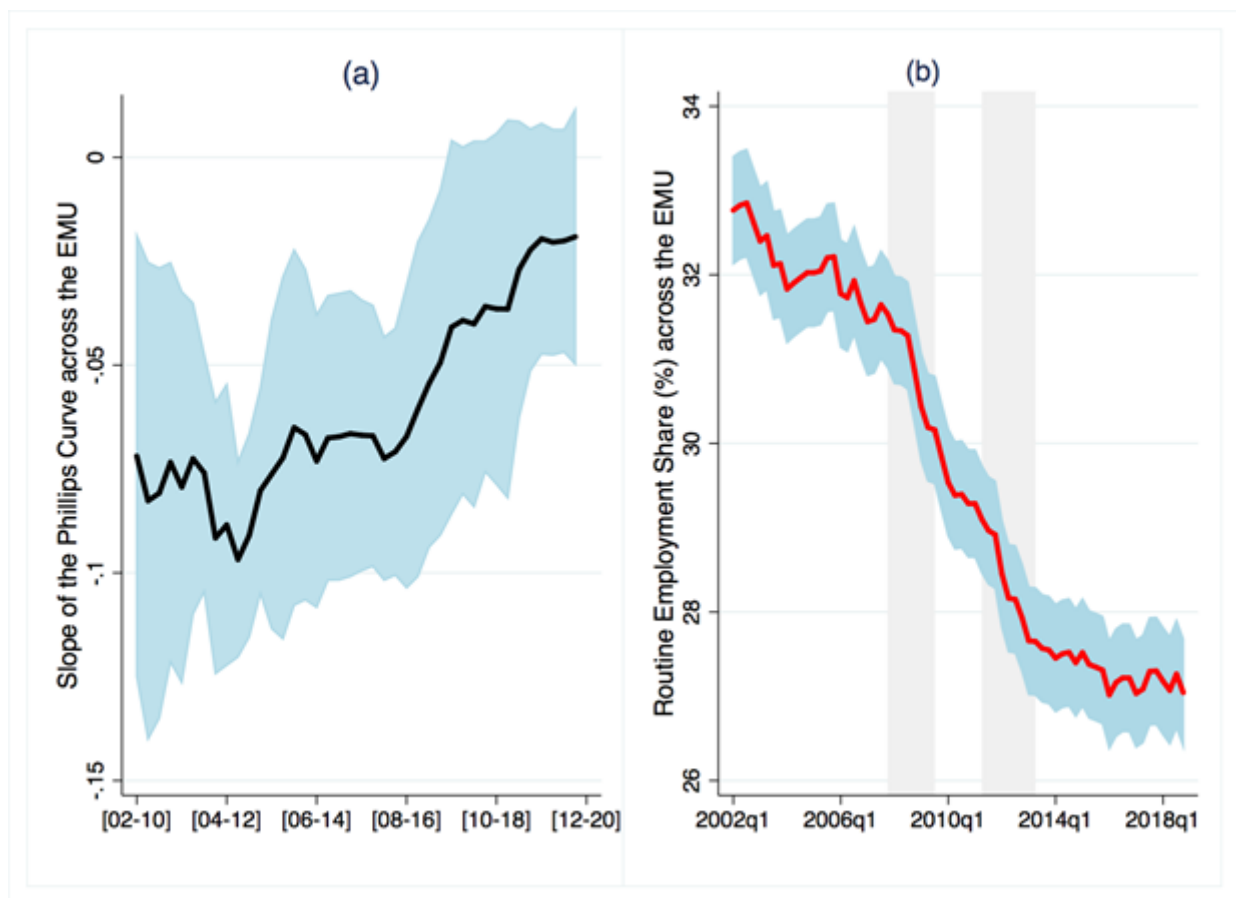


# Employment Composition and the Phillips Curve

By [Daniele Siena](#) and Riccardo Zago

*The occupational composition of the labour market is important for the relationship between prices and unemployment, i.e. the Phillips Curve (PC). The decline of the share of routine jobs can explain 1/4 of the recent flattening of the PC in the European Monetary Union (EMU).*

**Chart 1: The Slope of the Phillips Curve and Job Polarisation**



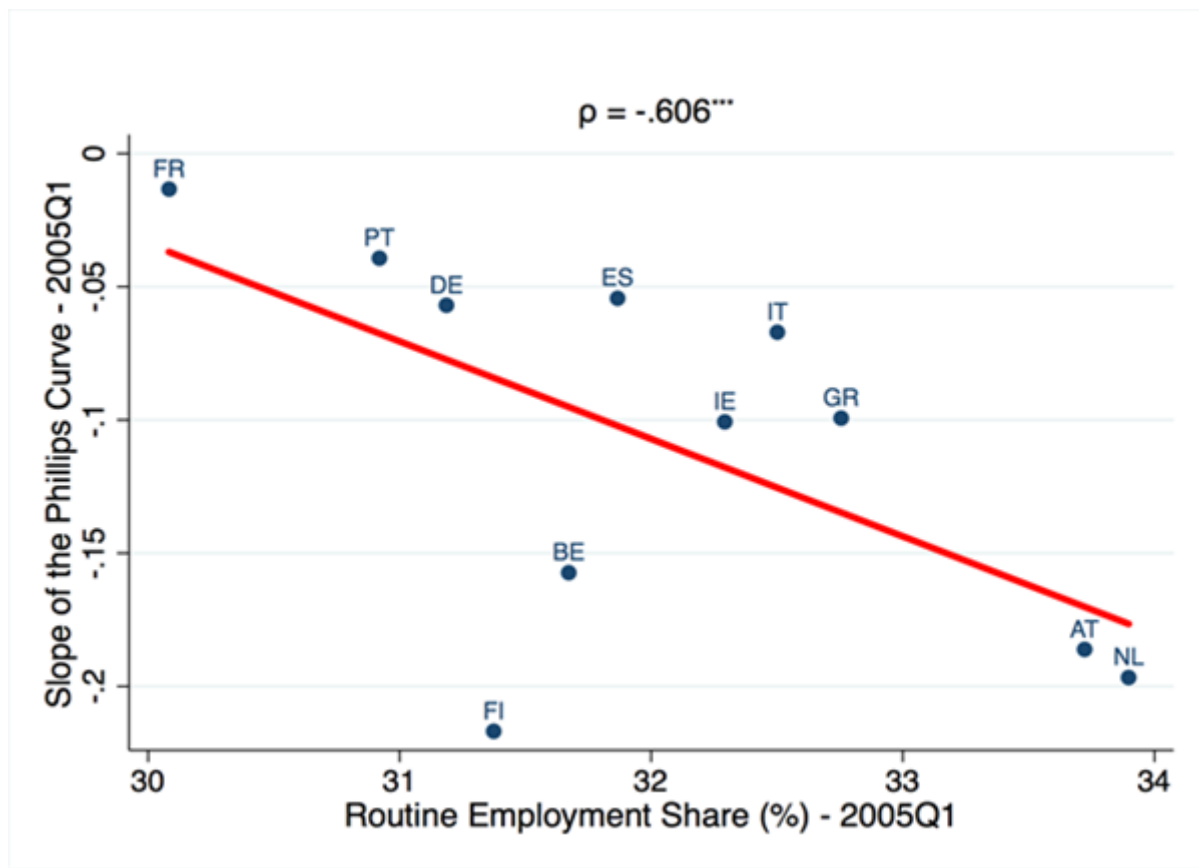
*Note: This chart plots the slope of the price PC (1.a) and the routine employment share (1.b) across the EMU. Grey areas represent recessions, blue areas are the 95% confidence interval.*

## The Flattening of the Phillips Curve and the Disappearance of Routine Jobs

There has been an ongoing debate since the 1970s on whether or not the price Phillips curve (PC) –the negative relationship between inflation and unemployment– is still alive or is dead (e.g. [Berson et al. 2018](#) show that it still exists). The answer often depends on the methodology, the sample of countries considered and the econometric specification used. We argue that in the EMU the price PC is still alive but has weakened in recent years (Chart 1.a). The literature has put forward two explanations for why this might have happened. The first relates to the anchoring of inflation expectations and the stronger commitment of central banks to keep inflation low (see Blanchard (2016)). The second is associated with structural changes in economic fundamentals due, for example, to digitalisation, population ageing, globalisation, and labour market dynamics. This blog, based on [Siena and Zago \(2021\)](#), focuses on the latter and shows that transformations in the occupational composition of the labour market matter for the flattening of the price PC.

In the last twenty years, the EMU labour market has changed, including its occupational composition. As shown in Chart 1.b, the share of routine jobs has declined consistently, and this phenomenon temporarily accelerated during the Great Recession (GR) and the Sovereign Debt Crisis (SDC) – grey shadowed areas. This phenomenon is known as *job polarisation* and describes the long-run decline of the share of clerical and production occupation (routine jobs) in favour of managerial, professional, service and sales jobs (abstract jobs). As explained in [Acemoglu and Autor \(2011\)](#), this long-run trend is mostly due to automation, i.e. the progressive substitution of routine workers with highly-performing machines and technologies. But it is not only about long-run dynamics. Polarisation also follows the cycle: routine jobs are destroyed faster during downturns (see [Jaimovich and Siu \(2020\)](#)). In this regard, we exploit these properties of job polarisation to show that employment composition matters for the flattening of the PC. First, we show that, at any point in time, countries whose share of routine jobs is relatively high exhibit a stronger relationship between inflation and unemployment. Conversely, when a country's share of routine employment is relatively low, the slope of the PC is flatter (see Chart 2). Second, over time, this relationship evolves with the change in job polarisation.

Chart 2: The Slope of the Phillips Curve and Routine Employment across the EMU



Note: This chart plots the slope of the price PC and the routine employment share as observed in 2005Q1 for countries that joined the EMU before 2002 (Luxemburg excluded).

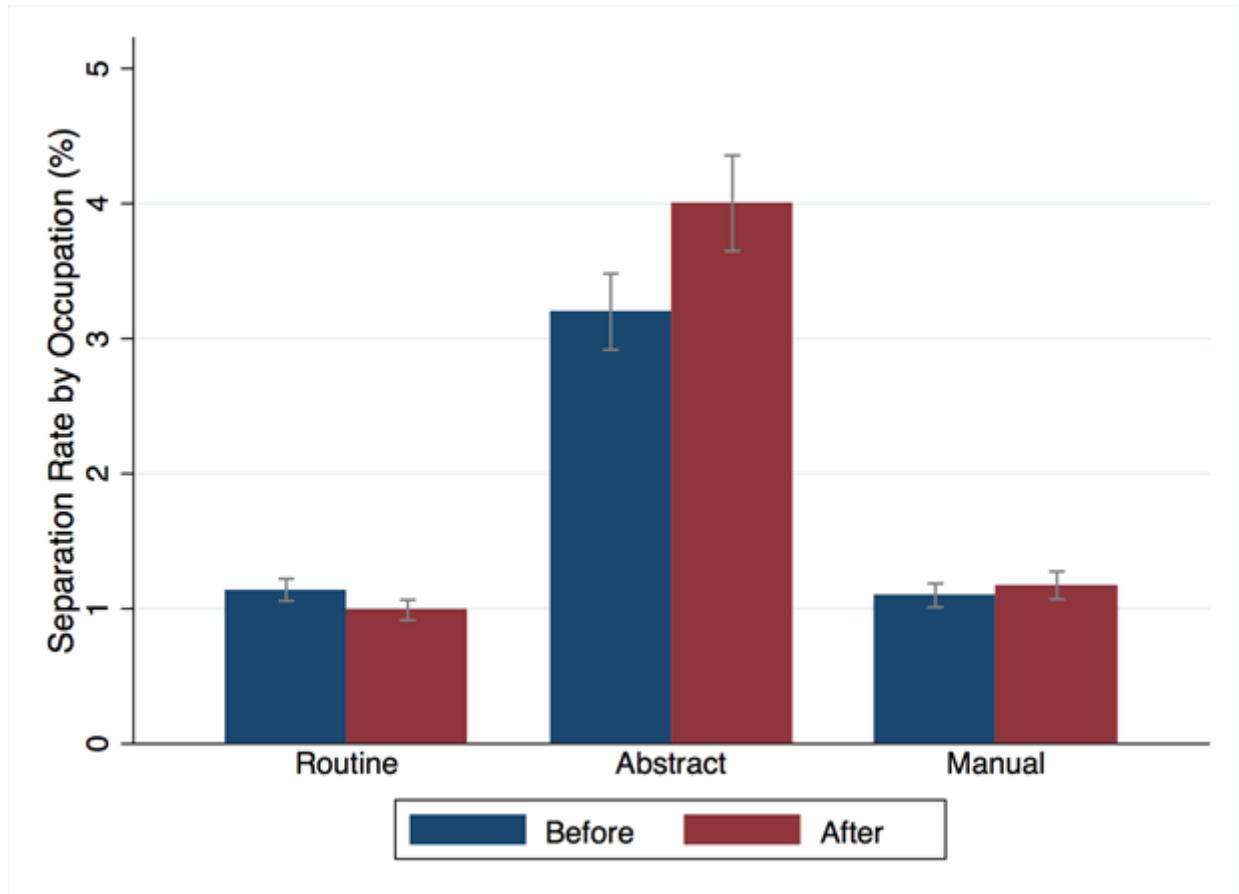
Beyond these simple correlations, there is a causality that goes in one direction: exogenous change in the composition of the job ladder leads to a flattening of the PC and not vice versa. We use the cross-country heterogeneity in routine job destruction – as exogenously induced by each recession – to show that each time the employment composition of the labour market changes in favour of non-routine jobs, the slope of the PC flattens afterwards. Quantifying the effects, we are able to confirm that the shift in the employment composition, which matured during the Great Recession and the Sovereign Debt Crisis, can explain up to 25% of the flattening of the price PC in the EMU (but cannot explain the recent steepening of the wage PC).

### The Importance of Labour Market Fluidity

Why does job polarisation flatten the PC? The answer may lie in differences across occupations. On the one hand, the market of non-routine jobs (labelled *abstract jobs*, based on their task-content) is more *fluid*, i.e. it exhibits higher separation and hiring rates. Conversely, the routine job market is less *fluid*, i.e. it exhibits lower separation and hiring rates (Chart 3). We use the theoretical framework of [Blanchard and Gali \(2010\)](#) to show that this occupational heterogeneity is indeed important for the slope of the New Keynesian Phillips Curve. In particular, higher labour market *fluidity* flattens the PC. Therefore, employment relocation from less to more fluid jobs – from routine to non-routine

occupations – weakens the relation between inflation and unemployment. A similar result would hold for a simple insider-outsider model, where the insider routine workers (more unionised and rigid) make way for outsider non-routine workers (less unionised and more flexible).

*Chart 3: Mean Separation Rate across jobs*



*Note: This chart plots the mean separation rate (along with the 95% confidence interval) across three job categories before the Great Recession (blue bars) and after the Sovereign Debt Crisis (red bars).*

### What to Expect from the Covid-19 Recession?

To conclude, the occupational composition of the labour market matters for the structural relationship between prices and unemployment. Knowledge of this is important for monetary policy makers, particularly in light of the current crisis. In fact, the Covid-19 pandemic has affected some occupations more than others. For example, the first lockdowns severely affected non-routine (service, accommodation) occupations rather than routine ones. Conversely, the policies put in place to mitigate the damage caused by the pandemic –such as the Next Generation EU– will probably have the opposite effect on the labour market, through bigger support for digital and green jobs. Therefore, it is hard to say what the net impact will be on employment composition and how the PC will behave in the near future.